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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,897	05/29/2001	F. Thomson Leighton	12293:21	5586

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EXAMINER	
EL CHANTI, HUSSEIN A	

ART UNIT	PAPER NUMBER
2157	

DATE MAILED: 11/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/866,897	LEIGHTON ET AL.	
	Examiner	Art Unit	
	Hussein A El-chanti	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to application filed on May 29, 2001. Claims 1-17 are pending examination.

Specification

2. Page 1 of the specification does not list the application numbers for related applications. Applicant is required to update page 1 of the specification.

Drawings

3. The drawings were received on Jan. 24, 2002. These drawings are acceptable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 6-7 and 9-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Jindal et al., U.S. patent No. 6,327,622 (referred to hereafter as Jindal).

As to claim 1, Jindal teaches a method of determining which of a set of content provider mirror sites should receive an end user's initial content request, comprising:

identifying a set of proxy points, wherein each proxy point represents a given point in the Internet at which a trace originating from each of a set of mirror sites directed toward a given name server intersect (see col. 5 lines 15-25);

probing the proxy points to generate given data (see col. 5 lines 4-14 and lines 25-35);

generating a download predictor score for each mirror site based on the given data (see col. 5 lines 15-25);

identifying which mirror site provides a best download performance based on the download predictor score (see col. 4 lines 57-col. 5 lines 14);

associating a given name server IP address with the identified mirror site (see col. 5 lines 15-45); and

in response to an end user's initial content request to a given local name server, returning an IP address of the identified mirror site (see col. 5 lines 15-45).

As to claim 2, Jindal teaches a method of optimizing a user's initial request to a content provider web site that is replicated at a set of mirror sites, comprising:

responsive to an end user's local name server making a request to the content provider's web site, directing the request to a global load balancing service having a network map that estimates relative connectivity to the mirror sites from a set of proxy points (see col. 4 lines 54-col. 5 lines 14);

using the network map to return to the end user's local name server an IP address identifying an optimal mirror site at which the request may be serviced (see col. 5 lines 15-45).

As to claim 3, Jindal teaches the method as described in claim 2 wherein each core point represents an intersection of trace routes that originate from a mirror site to a local name server (see col. 6 lines 13-45).

As to claim 4, Jindal teaches a method of routing a user's initial request to a content provider web site that is replicated at a set of mirror sites, comprising:

responsive to an end use's local name server making a request to the content provider web site, directing the request to a global load balancing service having a network map that estimates relative connectivity to the mirror sites from a set of proxy points (see col. 4 lines 54-col. 5 lines 54);

determining whether the network map includes data associating the end user's local name server to one of the mirror sites (see col. 3 lines 32-55); and

if not, identifying a given mirror site to respond to the request using a default routing mechanism (see col. 3 lines 32-55).

As to claim 6, the method as described in claim 4 wherein the default routing mechanism is geo-routing (see col. 11 lines 13-35).

As to claim 7, Jindal teaches a method for managing global traffic redirection for a set of content providers operating mirrored sites, comprising:

from each of a set of data centers that host mirrored sites, executing a given network test against each of a set of core points (see col. 4 lines 54-col. 5 lines 56);

generating a time-weighted average of a given metric based on data generated by executing the given network test (see col. 4 lines 54-col. 5 lines 56);

generating a score for each data center per core point (see col. 4 lines 54-col. 5 lines 56);

generating a set of candidate data centers for each of a set of name servers (see col. 6 lines 13-55);

associating a candidate data center to each of a set of IP address space blocks to generate a map (see col. 6 lines 13-55);

providing the map to a name server; and using the map to direct end user requests to a mirrored site to a given data center (see col. 6 lines 13-55).

As to claim 9, Jindal teaches the method as described in claim 7 wherein the given metric is latency or packet loss (see col. 5 lines 5-15).

As to claim 10, Jindal teaches the method as described in claim 7 further including the step of discarding from the set of candidate data centers any data center that does not meet a given operating criteria (see col. 8 lines 1-8).

As to claim 11, Jindal teaches the method as described in claim 10 wherein the given operating criteria is evaluated using a file download test (see col. 8 lines 1-8).

As to claim 12, Jindal teaches a method of optimizing a client request to a content provider site that is replicated at a set of mirror sites, comprising:

generating a network map that estimates relative connectivity to the mirror sites from a set of proxy points (see col. 4 lines 45-col. 5 lines 56);

responsive to a local name server making a request to the content provider's site, directing the request to a global load balancing service (see col. 4 lines 45-col. 5 lines 56); and

having the global load balancing service use the network map to return to the local name server an IP address identifying an optimal mirror site at which the request may be serviced (see col. 4 lines 45-col. 5 lines 56).

As to claim 13, Jindal teaches the method as described in claim 12 wherein the client request originates at a client machine and the content provider site is a Web site (see col. 4 lines 22-33).

As to claim 14, Jindal teaches the method as described in claim 12 wherein the client request originates from a cache and the set of mirror sites comprises a plurality of storage servers (see col. 4 lines 22-33).

As to claim 15, Jindal teaches the method as described in claim 12 wherein the client request originates at a streaming server and the set of mirror sites comprises a plurality of signal acquisition points (see col. 5 lines 5-15).

As to claim 16, Jindal teaches the method as described in claim 12 wherein the client request originates at a logging process and the set of mirror sites comprises a plurality of log archival servers (see col. 5 lines 5-15).

As to claim 17, Jindal teaches the method as described in claim 12 wherein the client request originates at a mail process and the set of mirror sites comprises a plurality of mail servers (see col. 4 lines 22-33).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jindal.

As to claim 5, Jindal teaches identifying a given mirror site to respond to the request using a default routing mechanism using RPC (see col. 3 lines 32-55).

Jindal does not explicitly teach using BGP protocol. Official notice is taken as evident by Microsoft Computer Dictionary 5th Edition that one of the ordinary skill in the art at the time of the invention would be motivated to use BGP instead of RPC because doing so would so to connect a plurality of nodes under single administrative authority using a common protocol for routing packets.

As to claim 8, Jindal teaches a method to determine the fastest response by servers (see abstract). However Jindal does not explicitly teach the limitation "ping test". Official notice is taken as evident by Microsoft Computer Dictionary 5th Edition that one of the ordinary skill in the art at the time of the invention would use a ping test since ping

packets are used to test reachability of destinations by sending them one, or repeated, ICMP echo requests and waiting for replies and therefore use a send and received packet to test the fastest response using a single packet.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Dynamic adjustment of mirror service policy for logical volumes in a disk drive system based on collected statistics by Mason Jr. et al., U.S. Patent No. 6,112,257
- Network load balancing for multi-computer server by counting message packets to/from multi-computer server by Martin, U.S. patent No. 6,263,368
- System and method for network load balancing by Dutta et al., U.S. Patent No. 6,546,423

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein A El-chanti whose telephone number is (703)305-4652. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (703)308-7562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hussein El-chanti

Oct. 19, 2004

SALEH NAJJAR
PRIMARY EXAMINER